



**APPEAL BRIEF UNDER  
37 C.F.R. § 41.37**

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**APPEAL FROM THE FINAL REJECTION  
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PER SJORUP SIMONSEN (hereinafter "Appellant") by and through his attorney,  
hereby submit this appeal brief pursuant to 37 C.F.R. § 41.37.

**I. REAL PARTY IN INTEREST**

BHJ A/S is the real party in interest.

**II. RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences.

**III. STATUS OF CLAIMS**

The application contains a total of six claims, claims 1-6. All claims, claims 1-6, are appealed.

**IV. STATUS OF AMENDMENTS**

The claims were amended and, specifically, claim 6 was added, in the Amendment filed May 3, 2006 in response to the non-final Office Action mailed February 3, 2006. Accordingly, the May 3, 2006 Amendment was entered. No Amendment was submitted after final.

**V. SUMMARY OF CLAIMED SUBJECT MATTER**

Appellant's presently claimed invention is a new and non-obvious method for producing gelatin comprising: (1) chopping or cutting a rind; (2) defatting the rind using steam and/or hot water; (3) hydrolyzing the defatted rind using an acid; (4) neutralizing the hydrolyzed rind material; and (5) extracting the neutralized rind material with water

to form gelatin (specification, pages 1 and 2 and claim 1 [previously presented]). The present novel and non-obvious method is based, in part, on Appellant's surprising discovery that a superior product and a higher yield is obtained when the rind is defatted prior to its being hydrolyzed (specification, page 1, lines 18-19). For example, the yield of high Bloom gelatin using the present method is 50-60% of the gelatin present in the rind, i.e. about 50% higher than by using a conventional method, and the produced gelatin has a higher strength than the gelatin produced using a conventional method (specification, page 1, lines 19-22). Conversely, conventional gelatin is prepared from rind, usually by first chopping the rind with the accompanying fat layer into pieces of e.g., 60 x 100 mm, followed by hydrolyzing the chopped rind with acid, followed by neutralizing and abstraction with water, first at 50°C, and thereafter at successively rising temperatures, resulting in the best gelatin quality, high Bloom, being obtained at 50°C, usually with a yield of 20-40% of gelatin present in the rind, with a Bloom strength of 280 g (specification, page 1, lines 9-15). The present method substantially enhances the yield by incorporating Appellant's discovery that a specific added step of defatting the rind prior to hydrolyzing substantially improves the product in yield (specification, page 1, lines 18-22).

Further, Appellant's invention is based on defatting a rind which is sufficiently commuted, e.g., into pieces of 1 mm (specification, page 1, lines 30-31). Advantageously, the rind is defatted using steam or hot water to melt off the fat from the rind (specification, page 1, lines 33-34). In a non-limiting example disclosed in the specification, page 2, the rind may be cut into pieces of approximately 5 mm, which are

defatted using steam and hot water in a continuous process to produce a fat content of 2% (specification, page 2, lines 20-23).

The defatting can be carried out by the addition of steam and/or hot water to melt off the fat from the rind, as disclosed in U.S. Patent No. 2,748,152, which discloses the preparation of defatted rind by heating chopped rind together with water, melting off fat, separation of the products, and purification of the defatted rind by washing with water in a centrifuge, although the rind is not defatted in a way which can be used for the production of gelatin (specification, page 1, line 33-page 2, line 2).

Claim 1 is directed to a method for producing gelatin comprising chopping or cutting a rind, defatting the rind using steam and/or hot water, hydrolyzing the defatted rind using an acid, neutralizing the hydrolyzed rind material, and extracting neutralized rind material with water to form gelatin (original claim 1, page 3, lines 3-4).

Claims 2-5 further define characteristics of the present method. For example, claim 2 recites that the defatting of the rind is carried out in a continuous process (specification, page 1, lines 30-31 and page 2, Example, lines 20-23).

Claim 3 recites that the defatting of the rind comprises defatting the rind to a fat content of 2-3% (specification, page 2, lines 21-23).

Claim 4 recites that the chopping or cutting of the rind comprises commuting the rind into pieces of 5 mm or less before hydrolysis (specification, page 1, lines 30-31 and page 2, lines 21-23).

Claim 5 is a product-by-process claim reciting the gelatin produced by the method of claim 1.

Claim 6 recites a method comprising cutting or chopping a rind into pieces not less than 1 mm (specification, page 1, lines 30-31 and page 2, lines 21-23).

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

1. Claims 1-5 were rejected under 35 U.S.C. § 102(b) as being anticipated by Lilja et al. (WO 94/21739) (hereinafter "Lilja").
2. Claims 1-5 were rejected under 35 U.S.C. § 103(a) as being obvious over Lilja in view of Haack et al., "Mechanical Deboning of Poultry and Fish and Defatting of Rinds Using The SFW 160 Separator (II)" (hereinafter "Haack").
3. Claim 6 was rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement.
4. Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Lilja in view of Haack.

## **VII. ARGUMENT**

### **A. CLAIMS 1-5 ARE NOT ANTICIPATED BY LILJA UNDER 35 U.S.C. § 102(b), AS LILJA FAILS TO DISCLOSE A DEFATTING PROCESS USING HOT WATER OR STEAM, AS CLAIMED**

Claims 1-5 are not anticipated by Lilja, as Lilja fails to teach or suggest the defatting process using hot water or steam, as claimed and disclosed, as one of ordinary skill in the art would understand a defatting process to be. The process of defatting and, in particular, the claimed process of defatting by hot water and/or steam is a term of art in the manufacture of gelatin from rind. Reference is made to the present specification for exemplary purposes, which clearly teaches that defatting using steam or hot water melts off the fat from the rind. Further, the present use of the term

“defatting” is consistent with how this term would be understood by one of ordinary skill in the art. Evidence of this is provided in the present specification, which cites U.S. Patent No. 2,748,152 on page 1, line 33-page 2, line 2 as disclosing one specific hot water or steam defatting process.

Moreover, although Lilja discloses a manufacturing process which includes producing a slurry using hot water, the slurry producing step with hot water would not be considered a process of defatting a rind using hot water and/or steam by one of ordinary skill in the art. The slurry producing process results in solid residue being separated, which is presumably bone remains (see Lilja, page 5, lines 21-22, step e). Therefore, it is clear from the Lilja disclosure that the slurry producing step is not equivalent to the claimed defatting of a rind using hot water or steam. Moreover, one of ordinary skill in the art would not refer to the hot water/slurry forming process in Lilja as a defatting step. Evidence of this is provided by Lilja, which discloses an optional defatting step, thereby establishing that the prior Lilja disclosed slurry forming step would not be considered a defatting step.

In addition, claims 2-4 are further not anticipated by Lilja, as reciting additional subject matter not taught or disclosed by Lilja. For example, claim 2 recites that defatting the rind is carried out in a continuous process. As discussed above, Lilja fails to teach or suggest the claimed defatting of the rind using steam and/or hot water, let alone defatting the rind in a continuous process. With regard to claim 3, Lilja fails to teach or suggest defatting the rind to a fat content of 2-3% using a steam and/or hot water defatting process. Although Lilja teaches an optional defatting step so that the fat content will not exceed 3% (Lilja, page 7, lines 9-12), since the step is disclosed as

optional, clearly the reduction in fat content to 3% is not produced by the slurry forming step. Furthermore, the Lilja hot water slurry step is not a defatting step which produces a 2-3% fat content in that Lilja clearly teaches that an optional defatting step is not critical (see Lilja, page 7, lines 9-12). Accordingly, Lilja fails to teach or suggest defatting using water or steam to produce a fat content of 2-3%.

Claim 5 is directed to the product of the method of claim 1, which Lilja fails to teach or suggest.

Based on the foregoing, Appellant respectfully submits that claims 1-5 are not anticipated by Lilja under 35 U.S.C. § 102(b).

**B. CLAIMS 1-5 ARE NOT OBVIOUS UNDER 35 U.S.C. § 103(a) FROM LILJA IN VIEW OF HAACK, AS THE COMBINED TEACHINGS OF THE REFERENCES FAILS TO TEACH OR SUGGEST THE CLAIMED DEFATTING PROCESS**

Claims 1-5 are not obvious by Lilja in view of Haack, as the combined teachings would lead one of ordinary skill in the art to use mechanical defatting, not hot water or steam and, therefore, the combined teachings of Lilja and Haack fail to teach or suggest the claimed defatting of a rind using steam or hot water. Although it was alleged that treatment of collagen-containing material by water at 130°C taught by Lilja would result in fat being removed since it is treated with water (Advisory Action), one of ordinary skill in the art would not refer to the water slurry mixture at 130°C by Lilja as defatting a rind process as claimed and in accordance with the specification as filed. Clearly, one of ordinary skill in the art would not refer to the water slurry mixture as a defatting process in the context of the claimed subject matter and the complete disclosure.

Moreover, the combined teachings of Lilja and Haack would lead one of ordinary skill in the art to use mechanical defatting, not hot water or steam and, therefore, the



combined teachings of Lilja and Haack fail to teach or suggest the claimed defatting of a rind using steam or hot water. As discussed above, Lilja fails to teach or suggest the claimed defatting process as would be understood by one of ordinary skill in the art, as Lilja fails to teach or suggest in any way that its 60-130°C slurry step is a defatting step. Most notably, Lilja teaches by negative implication that the slurry forming step is not a defatting step, as Lilja teaches an optional defatting step.

Furthermore, Lilja is completely silent with regard to any specific method one would use to defat the collagen-containing material, which is well below that of the present method. However, the state of the art at the time of Lilja, and as taught by Haack, is to use a mechanical defatting process, not a hot water or steam defatting process. Lilja and Haack, individually or in combination with one another, fail to teach or suggest any alternative defatting method, other than mechanical defatting. Furthermore, nowhere in Lilja or in Haack is there any teaching of any defatting process other than mechanical defatting.

Moreover, the present use of steam or hot water to defat results in a superior yield, as previously discussed in the Remarks sections of the prior amendments of November 9, 2005 and May 3, 2006, which state that the Haack process of forming gelatin from pork rinds, which are defatted mechanically, results in a defatted rind of about 60%.

Finally with regard to Lilja, although on page 7, lines 24-32, Lilja notes that a more extensive treatment gives a higher yield, but a lower quality, the present method results in both a higher yield and a better quality gelatin product, thus further distinguishing the present method from that taught by Lilja.

Further, dependent claims 2-5 are not obvious by Lilja in view of Haack, as their combined teachings fail to teach or suggest the additional subject matter. For example, with regard to claim 2, the combined teaching fails to teach or suggest defatting a rind carried out in a continuous process using hot water or steam (claim 2), the defatting the rind comprises defatting the rind to a fat content of 2-3% (claim 3), or a gelatin produced by the claimed method (claim 5).

Based on the foregoing, Appellant respectfully submits that claims 1-5 are not obvious under 35 U.S.C. § 103(a) from Lilja in view of Haack.

**C. CLAIM 6 IS IN COMPLIANCE WITH THE REQUIREMENTS OF  
35 U.S.C. § 112, FIRST PARAGRAPH (WRITTEN DESCRIPTION)**

Claim 6 is in compliance with 35 U.S.C. § 112, first paragraph (written description requirement), as the subject matter of claim 6 was disclosed in the specification as filed. The subject matter of claim 6, with regard to cutting or chopping the rind into pieces not less than 1 mm, is provided in the specification as filed, including page 1, lines 30-31, which recites that the rind is sufficiently commuted, e.g., in pieces of 1 mm (see page 3, lines 20-26, which discloses cutting the rind into pieces of approximately 5 mm), which is defatted. The disclosed examples of “approximately 5 mm” and “e.g., 1 mm” supports the claimed cutting or chopping a rind into pieces not less than 1 mm. Clearly, disclosing cutting to 1 mm or approximately 5 mm pieces discloses cutting into pieces which are not less than 1 mm. Accordingly, claim 6 does not present new matter and is in full compliance with the requirements of 35 U.S.C. § 112, first paragraph (written description).

**D. CLAIM 6 IS NOT OBVIOUS UNDER 35 U.S.C. § 103(a) FROM LILJA IN VIEW OF HAACK, AS THE PRIOR ART FAILS TO TEACH OR SUGGEST CUTTING A RIND INTO PIECES NOT LESS THAN 1 mm**

Claim 6 is not obvious from Lilja in view of Haack. In fact, Lilja actually teaches away from the claimed not less than 1 mm pieces, as Lilja clearly discloses cutting the collagen-containing material to less than 1 mm and, preferably, to a size of 0.3 mm. Moreover, cutting the rind into pieces not less than 1 mm enhances the ability to successfully defat the rind and, in particular, defat the rind to a fat content of 2-3%, as recited in claim 3 and, therefore, establishes secondary considerations of non-obviousness in providing a superior method in terms of lower fat content, due to rind pieces not less than 1 mm. Furthermore, cutting the rind into pieces less than 1 mm, such as disclosed by Lilja, and using the present method of defatting the rind using steam or hot water, followed by hydrolyzing the defatted rind using an acid, would result in a stable emulsion coming out, making it difficult to separate the fat from the emulsion, thus creating problems in the production of gelatin.

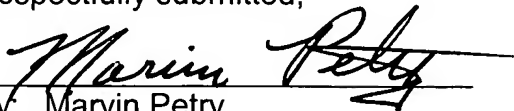
Based on the foregoing, Appellant respectfully submits that claim 6 is not obvious under 35 U.S.C. § 103(a) from Lilja in view of Haack.

**E. SUMMARY AND CONCLUSION**

In view of the above, it is respectfully submitted that the appealed claims are novel and non-obvious and in compliance with the requirements 35 U.S.C. § 112. The Examiner's rejections should be **REVERSED**.

Respectfully submitted,

Date: February 28, 2007

  
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## VIII. CLAIMS APPENDIX – CLAIMS ON APPEAL

1. A method for producing gelatin, said method comprising:  
chopping or cutting a rind;  
defatting the rind using steam and/or hot water;  
hydrolyzing the defatted rind using an acid;  
neutralizing the hydrolyzed rind material; and  
extracting the neutralized rind material with water to form gelatin.
2. The method of claim 1, wherein said defatting the rind is carried out in a continuous process.
3. The method of claim 1, wherein said defatting the rind comprises defatting the rind to a fat content of 2% to 3%.
4. The method claim 1, wherein said chopping or cutting the rind comprises comminuting the rind into pieces of 5 mm or less before the hydrolysis.
5. Gelatin produced by the method of claim 1.
6. The method of claim 1, wherein said cutting or chopping comprises cutting or chopping a rind into pieces not less than 1 mm.

**IX. EVIDENCE APPENDIX**

NOT APPLICABLE

**X. RELATED PROCEEDINGS APPENDIX**

NOT APPLICABLE